Tactical Atmospheric Modeling System-Real Time (TAMS-RT) Transition

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LONG-TERM GOAL

This is a follow-on award to a 1998 accelerated technology initiative (Blue Book) to demonstrate an organic atmospheric data assimilation capability at the Naval Central Meteorology and Oceanography Center (NCMOC) Bahrain. The purpose of this award was to transition the capability to the designated support activity.

OBJECTIVES

Deliver a configuration managed, documented suite of software for the NRL Tactical Atmospheric Modeling System-Real Time (TAMS-RT) to the Fleet Numerical Meteorology and Oceanography Center (FNMOC). Provide system administration documentation for configuring the computer systems and training for the FNMOC TAMS-RT support cell. Provide support to FNMOC for installation of TAMS-RT at the Naval Central Meteorology and Oceanography Center (NEMOC) Rota, Spain.

APPROACH

Design and implement a software tree for configuration management using the Concurrent Version System (CVS). Develop specific software bundles for each of the three computer systems used in TAMS-RT. In coordination with FNMOC, freeze the software development and package the bundles using the Install Anywhere commercial product. Develop post-installation processing scripts to configure the software properly for execution.

Develop documented procedures to build and configure the Sun and SGI TAMS-RT computer systems including installing memory and disks, configuring disk partitions and file systems, adding proper user accounts, and installing and configuring system and application software. In coordination with FNMOC test the procedures and build operational systems.

Provide deep support to FNMOC front-line resources for bug fixes, software enhancements, consultation, and training (train the trainers).

Travel to NEMOC Rota for TAMS-RT installation scheduled November 1999.

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WORK COMPLETED

The TAMS-RT software tree for configuration management of each of the three bundles has been created in CVS and procedures documented and tested.

Software freeze is scheduled for 1 November 1999 with a six month update cycle. Post-installation processing scripts are currently in development.

Procedures have been documented for hardware setup, software installation, and system configuration. Documentation is in revision in a tight loop with FNMOC staff using spare computers for thorough testing.

Consultation has been provided to FNMOC on a number of issues in the setup of their TAMS-RT cell and configuration of the system to be delivered to NEMOC Rota.

RESULTS

The delivery to FNMOC and future releases of TAMS-RT software will benefit from the effort expended to develop a configuration managed version of the TAMS-RT software and Install Anywhere bundles. The installation is self-extracting (similar to applications installed in Windows) and downloadable over a web browser. User configuration is minimized and accomplished through a Graphical User Interface (GUI) invoked after installation. As a result, the configuration of individual files has been nearly eliminated. Source code version control will allow NRL to maintain consistency among multiple TAMS-RT systems and facilitate controllable updates.

IMPACT/APPLICATIONS

TAMS-RT should be easier to install and less expensive to maintain. Configuration control enables NRL and FNMOC to maintain consistency among installations.

TRANSITIONS

FNMOC has been designated as the lead transition activity to install TAMS-RT at the remaining six sites during FY 00 and FY 01.

TAMS-RT also transitions to an existing 6.4 program at the Space and Naval Warfare Systems Command PMW 185 (SPAWAR PE 0603207N X2343): the On-Scene Tactical Atmospheric Forecast Capability (STAFC), a component of the Navy Integrated Tactical Environmental Subsystem (NITES I) Phase II.

RELATED PROJECTS

Related 6.2 projects within PE 0602435N are award numbers N0001499WX30121 (Shipboard model development), N0001499WX30271 (NOWCAST), N0001499WX30120 (EM/EO assessment), N0001499WX40070 (TAMS-RT), and N0001499WX40033 which encompasses the following NRL

base projects: BE-35-2-32 (DaFWA), and BE-35-2-44 (moisture parameterization). The related 6.4 project under PE 0603207N is X2343 (STAFC).

REFERENCES

Bargsten, S., D. Grant, A. Caughey, D. Geiszler, P. Tsai, and J. Cook, 1999: Tactical Atmospheric Modeling System – Real Time (TAMS-RT) System Administration Manual.